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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,008	03/22/2004	Brent R. Jones	1776-031	1188

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EXAMINER

LIANG, LEONARD S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,008	JONES ET AL.	
	Examiner	Art Unit	
	Leonard S. Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/21/04, 01/13/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 180, 190, 216. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 3 is objected to because of the following informalities:

Claim 3 discloses "electrical contacts attached to said housing; said electrical contacts adapted to exchange power and information between said printer, and exchange power and information between said storage device and other components of said housing; and" There is no phrase that follows this incomplete thought. It will be construed that the claim should state "electrical contacts attached to said housing; said electrical contacts adapted to exchange power

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and information between said printer, and exchange power and information between said storage device and other components of said housing." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

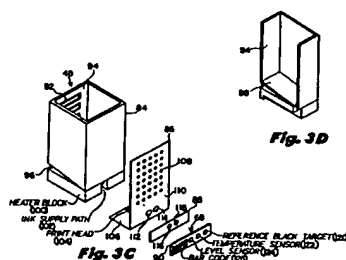
Claims 1, 3, 10, 12-14, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al (US Pat 5406315).

Allen et al discloses:

- {claim 1} A solid ink supply container adapted for use with solid ink printers (figure 3C; column 1, lines 7-11); removable housing adapted to receive solid ink masses, the housing adapted to be coupled to at least one printhead (figure 3C, reference 84); a heater subsumed by the housing, the heater adapted to liquefy solid ink masses (figure 3C, reference 92); an outlet port adapted to facilitate fluid ink transfer to at least one printhead (figure 3C, reference 102); an ink sensor adapted to sense the amount of ink in the supply container (figure 3C, reference 124); at least one electronic storage device adapted to the housing, the electronic device adapted to exchange printer operation information with the printer to which the ink supply container is attached (figure 3C, reference 122, 124, 126); and electrical contacts attached to the housing, the electrical contacts

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adapted to exchange power and information between the printer, and exchange power and information between the storage device and other components of the housing (figure 3C, reference 86)



- {claim 3} A system for supplying solid ink to a solid ink printer (figure 3C); a solid ink supply container adapted for use with solid ink printers (figure 3C, reference 84); a removable housing adapted to receive solid ink masses, the housing adapted to be coupled to at least one printhead (figure 3C; column 1, lines 7-11); a heater subsumed by the housing, the heater adapted to liquefy solid ink masses (figure 3C, reference 92); a fluid outlet port attached to the housing, the port adapted to output liquefied ink to the at least one printhead (figure 3C, reference 102); an electronic storage device attached to the housing, the electronic storage device adapted to store printer operation information transferred to it by a printer to which the ink supply container is attached (figure 3C, reference 122, 124); electrical contacts attached to the housing; the electrical contacts adapted to exchange power and information between the printer, and exchange power and information between the storage device and other components of the housing

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- {claim 10} wherein the fluid output port further comprises: a fluid outlet valve adapted to output liquefied ink to the at least one printhead (figure 3C, reference 102)
- {claim 12} wherein the printer operation information comprises color table information (column 6, lines 62-68)
- {claim 13} wherein the printer operation information comprises thermal operation set point information (figure 3C, reference 122)
- {claims 14} an ink level sensor coupled to the electrical contacts, the ink level sensor adapted to detect the level of ink in the housing (figure 3C, reference 124)
- {claim 17} wherein the printer operation information comprises color table information (column 6, lines 65-68)
- {claim 18} wherein the printer operation comprises thermal operation set point information (figure 3C, reference 122)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-6, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US Pat 5406315) in view of Matsumoto et al (US Pat 6969136).

Allen et al discloses:

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- {claim 2} A method of replacing solid ink for a solid ink printer (figure 3C; column 1, lines 7-11); providing at least one solid ink supply container comprising: removable housing adapted to receive solid ink masses, the housing adapted to be coupled to at least one printhead (figure 3C, reference 84); a heater subsumed by the housing, the heater adapted to liquefy solid ink masses (figure 3C, reference 92); a fluid outlet port attached to the housing, the port adapted to output liquefied ink to the at least one printhead (figure 3C, reference 102); an electronic storage device attached to the housing, the electronic storage device adapted to store printer operation information transferred to it by a printer to which the ink supply container is attached (figure 3C, reference 122, 124, 126); electrical contacts attached to the housing; the electrical contacts adapted to exchange power and information between the printer, and exchange power and information between the storage device and other component of the housing (figure 3C, reference 86)
- {claim 5} automatically detecting the level of ink in the housing; and generating by the container and transmitting to the printer, a low ink level signal when the ink level reaches a predefined level (figure 3C, reference 124; column 7, line 60-column 8, line 8)
- {claim 6} automatically detecting the level of ink in the housing; generating by the container and transmitting to the printer, a low ink level signal when the ink level reaches a predefined low level (figure 3C, reference 124; column 7, line 60-

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column 8, line 8); generating by the printer, a user perceivable indication that ink in the container has reached a predefined low level (column 7, lines 66-67)

- {claim 8} wherein the printer operation information comprises color table information (column 6, lines 62-68)
- {claim 9} wherein the printer operation information comprises thermal operation set point information (figure 3C, reference 122)

Allen et al differs from the claimed invention in that it does not disclose:

- {claim 2} removing the container from the printer when container ink is depleted; recycling the container at a recycling operation; receiving a replacement container from the recycling operation with new solid inks therein; and installing the replacement container for use with the printer
- {claim 4} downloading printer operation information from the container by an instrumentality of the recycling operation

Matsumoto et al discloses:

- {claim 2} removing the container from the printer when container ink is depleted; recycling the container at a recycling operation; receiving a replacement container from the recycling operation with new solid inks therein; and installing the replacement container for use with the printer (column 1, lines 51-62; column 2, lines 1-21)
- {claim 4} downloading printer operation information from the container by an instrumentality of the recycling operation (column 2, lines 7-21)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Matsumoto et al into the invention of Allen et al. The motivation for the skilled artisan in doing so is to gain the benefit of helping to preserve the environment by not wasting ink cartridges.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US Pat 5406315) in view of Matsumoto et al (US Pat 6969136), as applied to claim 2 above, and further in view of Byers et al (US PgPub 20030043231).

Allen et al, as modified, teaches all limitations of the claimed invention except for the following:

- {claim 7} providing a plurality of ink supply containers; automatically detecting the level of ink in the housings; automatically switching the supply of ink from one ink supply container when the ink level in that container reaches a predetermined threshold level, to another ink supply container

Byers et al discloses:

- {claim 7} providing a plurality of ink supply containers; automatically detecting the level of ink in the housings; automatically switching the supply of ink from one ink supply container when the ink level in that container reaches a predetermined threshold level, to another ink supply container (paragraph 0002, 0011)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Byers et al into the invention of modified

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Allen et al. The motivation for the skilled artisan in doing so is to gain the benefit of allowing printing to continue when one ink cartridge is empty.

Claims 11 and 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US Pat 5406315) in view of Riley (US Pat 5146785).

Allen et al discloses:

- {claim 11} a supply container (as applied to claim 1 above)
- {claim 15} a system (as applied to claim 3 above); an ink level sensor coupled to the electrical contacts, the ink level sensor adapted to detect the level of ink in the housing (figure 3C, reference 124)

Allen et al differs from the claimed invention in that it does not disclose:

- {claims 11 and 15} the ink sensor comprising a rheostat

Riley discloses, with respect to claims 11 and 15, an ink sensor comprising a rheostat (figure 2; column 3, lines 60-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Riley into the invention of Allen et al. The motivation for the skilled artisan in doing so is to gain the benefit of enabling measurement of depth variances far in excess of other sensors.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (US Pat 5406315) in view Byers et al (US PgPub 20030043231).

Allen et al discloses, with respect to claim 16, a system (as applied to claim 3 above).

Allen et al differs from the claimed invention in that it does not disclose a plurality of ink supply containers, and further comprising: ink supply switch adapted to automatically switch the supply of ink from one ink supply container when the ink level in that container reaches a predetermined threshold level, to another ink supply container.

Byers et al discloses a plurality of ink supply containers, and further comprising: ink supply switch adapted to automatically switch the supply of ink from one ink supply container when the ink level in that container reaches a predetermined threshold level, to another ink supply container (paragraph 0002, 0011).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Byers et al into the invention of Allen et al. The motivation for the skilled artisan in doing so is to gain the benefit of allowing printing to continue when one ink cartridge is empty.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Thornton et al (US Pat 6089686) discloses a method for supplying ink to an ink jet printer.

Choi (US Pat 6739689) discloses an ink cartridge identifying apparatus.

Deur et al (US Pat 5386224) discloses an ink level sensing probe system for an ink jet printer.

Hoisington et al (US Pat 5694156) discloses an ink jet head with ink usage sensor.

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Phillips (US Pat 6550881) discloses facilitating servicing of a depleted container.

Lewis et al (US Pat 5788833) discloses sensors for detecting analytes in fluids.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148.


The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

04/11/06

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STEPHEN MEIER
SUPERVISORY PATENT EXAMINER